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(54) Title: **MANGANESE ION REGULATION OF REVERSE TRANSCRIPTASE ACTIVITY AND METHODS OF MODULATING SAME**

(57) Abstract: Methods of identifying agents that modulate reverse transcriptase activity in a cell by affecting manganese ion transport across a membrane of the cell are provided, as are agents identified using such methods. Also provided are methods of modulating reverse transcriptase activity by effecting manganese ion concentration. In addition, methods of reducing or inhibiting infection of cells with a retrotransposable element are provided.

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